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(71) Applicant:
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.
Kadoma-shi, Osaka-fu, 571 (JP)

(72) Inventors:

- Yamane, Yasuhiko
Moriguchi-shi, Osaka 570 (JP)
- Hasebe, Takumi
Yawata-shi, Kyoto 614 (JP)

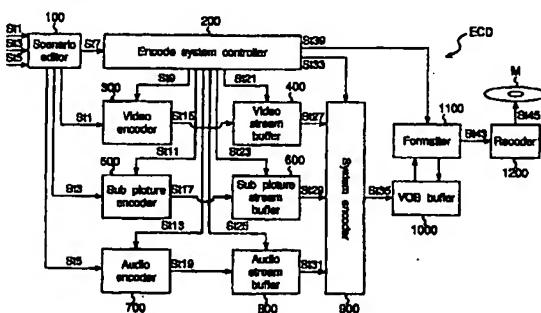
- Tsuga, Kazuhiro
Takarazuka-shi, Hyogo (JP)
- Mori, Yoshihiro
Hirakata-shi, Osaka 573 (JP)
- Nakamura, Kazuhiko
Hirakata-shi, Osaka 573 (JP)
- Fukushima, Yoshihisa
Osaka-shi, Osaka 536 (JP)
- Kozuka, Masayuki
Neyagawa-shi, Osaka 572 (JP)
- Matsuda, Chieko
Hirakata-shi, Osaka 573 (JP)
- Azumatani, Yasushi
Takatsuki-shi, Osaka 569 (JP)

(74) Representative:
Eisenführ, Speiser & Partner
Martinistraße 24
28195 Bremen (DE)

(54) Method and device for recording and reproducing interleaved bitstream on and from medium

(57) A method and device for interleaving bit stream so that a bit stream can be seamless-reproduced from a multimedia optical disk (M) which is used efficiently by recording data shared by a plurality of titles and has a data structure that realizes such a new function as the multi-angle reproduction. The data structure is such that a plurality of video objects (VOB) containing compressed video data are recorded on the multimedia optical disk (M) in the order of reproduction in interleave areas (blocks 4 and 6) and continuous areas (blocks 1, 2, 3, 5, and 7) and a management area (NV) in which data are interleave-recorded together with the video data is provided. The information which specifies the information on the end position of the area from which data are read out continuously and the information on the position where the data can be reproduced next on the disk are recorded in the management area.

Fig.25





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 99 10 3160

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.6)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
A	EP 0 661 876 A (SONY CORPORATION) 5 July 1995 * column 12, line 20 - column 14, line 36 * ----	1-14	H04N9/804						
A	WO 95 12179 A (TIME WARNER ENTERTAINMENT CO., L.P.) 4 May 1995 * page 51 - page 64 *	1-14							
A	EP 0 554 967 A (CANON K.K.) 11 August 1993 * column 6, line 36 - column 9, line 8 *	1-14							
A	WO 92 05554 A (N.V. PHILIPS' GLOEILAMPENFABRIEKEN) 2 April 1992 * page 23, line 4 - page 27, line 11 *	1-14							
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)						
			H04N						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>BERLIN</td> <td>22 April 1999</td> <td>Dudley, C</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	BERLIN	22 April 1999	Dudley, C
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BERLIN	22 April 1999	Dudley, C							
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons A : member of the same patent family, corresponding document							
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ON EUROPEAN PATENT APPLICATION NO.

EP 99 10 3160

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22-04-1999

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
EP 0661876	A	05-07-1995		JP 7203366 A JP 7203365 A US 5878187 A	04-08-1995 04-08-1995 02-03-1999
WO 9512179	A	04-05-1995		US 5463565 A AU 673783 B AU 8080894 A CA 2174225 A DE 727074 T EP 0727074 A JP 8511124 T US 5619424 A	31-10-1995 21-11-1996 22-05-1995 04-05-1995 02-01-1998 21-08-1996 19-11-1996 08-04-1997
EP 0554967	A	11-08-1993		JP 1043874 A JP 2623594 B JP 1043875 A JP 2621201 B JP 1052268 A JP 2584784 B JP 1162273 A JP 2675791 B DE 3885815 D DE 3885815 T EP 0303450 A EP 0830033 A US 5012352 A US 5101274 A	16-02-1989 25-06-1997 16-02-1989 18-06-1997 28-02-1989 26-02-1997 26-06-1989 12-11-1997 05-01-1994 24-03-1994 15-02-1989 18-03-1998 30-04-1991 31-03-1992
WO 9205554	A	02-04-1992		AT 148819 T AT 162661 T AU 642540 B AU 8635991 A AU 655944 B AU 8636991 A AU 8637391 A AU 8648591 A AU 658152 B AU 8649091 A AU 8656791 A AU 658153 B AU 8657491 A AU 661829 B AU 8667091 A CA 2068869 A CA 2068883 A CA 2068886 A	15-02-1997 15-02-1998 21-10-1993 15-04-1992 19-01-1995 15-04-1992 15-04-1992 15-04-1992 06-04-1995 15-04-1992 15-04-1992 15-04-1992 06-04-1995 15-04-1992 10-08-1995 15-04-1992 20-03-1992 20-03-1992 20-03-1992

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 99 10 3160

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 The members are as contained in the European Patent Office EDP file on
 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-04-1999

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9205554 A		CA 2091166 A	20-03-1992
		CA 2092692 A	20-03-1992
		CN 1062064 A, B	17-06-1992
		CN 1064186 A	02-09-1992
		CN 1062065 A, B	17-06-1992
		CN 1067545 A	30-12-1992
		CN 1061688 A, B	03-06-1992
		CN 1062066 A	17-06-1992
		DE 69124615 D	20-03-1997
		DE 69124615 T	24-07-1997
		DE 69124701 D	27-03-1997
		DE 69124701 T	31-07-1997
		DE 69128772 D	26-02-1998
		DE 69128772 T	06-08-1998
		EP 0549688 A	07-07-1993
		EP 0500913 A	02-09-1992
		EP 0506902 A	07-10-1992
		EP 0500927 A	02-09-1992
		FI 931206 A	18-03-1993
		HU 64659 A	28-01-1994
		JP 5502539 T	28-04-1993
		JP 5502568 T	28-04-1993
		JP 5502541 T	28-04-1993
		JP 6501362 T	10-02-1994
		JP 8502840 T	26-03-1996
		JP 6501363 T	10-02-1994
		MX 9101082 A	31-05-1994
		NL 9002108 A	16-04-1992
		NL 9002109 A	16-04-1992
		NL 9002110 A	16-04-1992
		NL 9002111 A	16-04-1992
		NL 9002112 A	16-04-1992

EPO FORM P059

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82